

Opener

Calc Volume  $V = A_b \times h_r$

$h = 4 \text{ cm}$

$V = \frac{(24 \times 12) \times 4}{3}$

$V = 288 \times 4$

$V = 1152 = 384 \text{ cm}^3$

Calc SA

$s = 1.4 \text{ m}$

$a = 1.2 \text{ m}$

$h = 9.7 \text{ m}$

$SA = \frac{P(a)}{2} + P(h_r)$

$SA = \frac{7(84)(12)}{2} + 84(9.7)$

$SA = 10.08 + 81.48$

$= 91.56 \text{ m}^2$

Calc SA

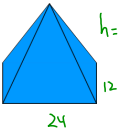

$s = \sqrt{r^2 + h^2}$

$SA_{\text{cone}} = \pi r s + \pi r^2$

$SA_c = 3.14(4.3)(11.4) + 3.14(4.3)^2$

$= 138.85 + 58.05$

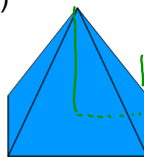
$= 196.9 \text{ cm}^2$

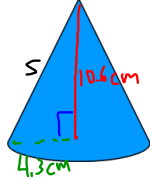




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Calculate Surface Area of two of the following

i)   $h = 4 \text{ cm}$ ,  $a = 12$

ii)   $s = 1.4 \text{ m}$ ,  $a = 1.2 \text{ m}$ ,  $h = 9.7 \text{ m}$

iii)   $s = 1.4 \text{ m}$ ,  $a = 1.2 \text{ m}$ ,  $h = 9.7 \text{ m}$

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## Measurement Investigation

p.151 q. 1-3  
In groups of three

Create a Concluding Statement Regarding Max Area vs Min Perimeter of a rectangle

The perfect rectangle  
is a square

Max Area with Minimum  
Perimeter

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## 8.3 Investigating Minimum/Maximum Dimensions of a Rectangular Prism

$$V = lwh$$

$$V = (l)(l)(l)$$

$$V = l^3$$

$$l = \sqrt[3]{V}$$

Optimum. =

$$\text{Volume} = s^3$$

$$SA = 6s^2$$

- Optimum size of a rectangle to maximize area is a square
- Optimum dimensions of a rectangular prism is a

Workbook

p159-160 q 1-3,5

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What are the dimensions of a optimum  
rectangular prism with a Volume of  
 $2800 \text{ cm}^3$ ?

$$l = \sqrt[3]{V}$$

$$l = \sqrt[3]{2800}$$

$$l = 14.09$$

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Optimize  
Hmk

p.472 q.6

minimize maximize

$$SA = 6s^2 \quad V = s^3$$

Dec 5-9:20 AM

Pattern Follows for a Cylinder

Therefore, the height is the same as the diameter

$$V = A_b \times h$$

$$V = \pi r^2 \times h$$

$$V = \pi r^2 \times 2r$$

$$V = 2\pi r^3$$

p. 161 q. 1-5

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D = ? cyl

$$V = 325117 \text{ cm}^3$$

$$h = 132 \text{ cm}$$

$$V_{\text{cyl}} = \pi r^2 \times h$$

$$\frac{325117}{132} = \frac{3.14 r^2 \times 132}{132}$$

$$\frac{2463}{3.14} = \frac{3.14 r^2}{3.14}$$

$$\sqrt{784} = \sqrt{r^2}$$

$$28.0 = r$$

$$D = 56 \text{ cm}$$

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